

Premix Thermoplastics PRE-ELEC® PE 1292

Category : Polymer , Film , Thermoplastic , Polyethylene (PE) , HDPE

Material Notes:

PRE-ELEC PE 1292 is a conductive thermoplastic compound based on PE-HD. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC PE 1292 has an excellent balance of mechanical properties and is easy to extrude. PRE-ELEC PE 1292 can also be blow molded. Typical applications include extrusion of pipe and sheet which can be welded or vacuum formed without pre-drying. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PE-1292.php

Physical Properties	Metric	English	Comments
Density	1.03 g/cc	0.0372 lb/in ³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	0.015 - 0.025 cm/cm @Thickness 4.00 mm	0.015 - 0.025 in/in @Thickness 0.157 in	10.0 mm wide molded rod; ISO 294-4
Melt Flow	1.5 g/10 min @Load 5.00 kg, Temperature 190 °C	1.5 g/10 min @Load 11.0 lb, Temperature 374 °F	ISO 1133
	6.0 g/10 min @Load 10.0 kg, Temperature 190 °C	6.0 g/10 min @Load 22.0 lb, Temperature 374 °F	ISO 1133
High Load Melt Index	35 g/10 min @Load 21.6 kg, Temperature 190 °C	35 g/10 min @Load 47.6 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	31.0 MPa	4500 psi	ISO 527
Film Elongation at Break, MD	70 %	70 %	ISO 527
Film Elongation at Yield, MD	12 %	12 %	ISO 527
Modulus of Elasticity	1.10 GPa @Thickness 4.00 mm	160 ksi @Thickness 0.157 in	10.0 mm wide molded rod; ISO 178
Izod Impact, Notched	0.500 J/cm @Thickness 4.00 mm, Temperature -20.0 °C	0.937 ft-lb/in @Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	0.850 J/cm	1.59 ft-lb/in	

Mechanical Properties	Metric	English	ISO 180 Comments
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
Film Tensile Strength at Break, MD	17.0 MPa	2470 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	84.0 °C	183 °F	10.0 mm wide molded rod; ISO 75/Method Bf
	@Thickness 4.00 mm	@Thickness 0.157 in	
Vicat Softening Point	128 °C	262 °F	Rate A; 10.0 mm wide molded rod; ISO 306/A50
	@Thickness 4.00 mm	@Thickness 0.157 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 10000 ohm-cm	<= 10000 ohm-cm	400 um thick sheet; ISO D-257
Surface Resistance	<= 1e+05	<= 1e+05	400 um thick sheet; ISO D-257

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	200 °C	392 °F	Zone 1; Cylinder
	210 °C	410 °F	Zone 2; Cylinder
	220 °C	428 °F	Zone 3; Cylinder
	220 °C	428 °F	Zone 4; Cylinder
	230 °C	446 °F	Zone 5; Cylinder
	230 °C	446 °F	Zone 6; Cylinder
Die Temperature	220 °C	428 °F	Zone 3
	230 °C	446 °F	Zone 2
	230 °C	446 °F	Zone 4
	240 °C	464 °F	Zone 5
	240 °C	464 °F	Zone 1

Melt Temperature Processing Properties	200 - 250 °C Metric	392 - 482 °F English	Comments
Mold Temperature	40.0 - 60.0 °C	104 - 140 °F	
Roll Temperature	50.0 °C	122 °F	3rd Roll
	60.0 °C	140 °F	2nd Roll
	70.0 °C	158 °F	1st Roll
Drying Temperature	80.0 °C @Time 7200 - 14400 sec	176 °F @Time 2.00 - 4.00 hour	Pre-drying in a dehumidifier
Moisture Content	<= 0.15 %	<= 0.15 %	When Produced
Injection Pressure	60.0 - 80.0 MPa	8700 - 11600 psi	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Appearance	Granule	
Color	Black	
Injection Speed	Moderate	

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